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10/045,017	01/15/2002	Yoshitaka Terao	P56664	7888

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EXAMINER

MACCHIAROLO, PETER J

ART UNIT PAPER NUMBER

2875

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/045,017

Applicant(s)

TERAO ET AL.

Examiner

Peter J Macchiarolo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 12-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. The reply filed on December 3, 2003 consists of remarks related to the prior rejection of claims in the Final Office Action filed October 3, 2003. The finality of the previous Office action has been withdrawn. However, claims 1-21 are not allowable as explained below.

Election/Restrictions

2. Applicant's election with traverse of claims 1-11, and 19-21 in Paper No. 6 is acknowledged. The traversal is on the ground(s) that there is not a serious burden on the examiner. This is not found persuasive because Applicant has acknowledged at page 4, group I is classified in class 313, and group II¹ is classified in class 445. Class 445 encompasses mechanical inventions, while class 313 encompasses electrical inventions, and searching both classes would be a serious burden on the examiner. Therefore, because these inventions are distinct for the reasons given in the previous Office Action, have acquired a separate status in the art as shown by their different classification and would be a serious burden on the Examiner, the, restriction is still deemed proper and is therefore made FINAL.

3. Claims 12-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected method, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 6.

¹ The Examiner recognizes Applicant's typographical error on page 4 that group II is classified in class 445.

Amendment to Specification

4. The amendment filed July 14, 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention.
5. The added material which is not supported by the original disclosure is as follows: Applicant has amended paragraphs [0060] and [0146] to indicate that main barrier ribs (Fig.1, 15) and electrode barrier ribs (Fig.1, 17) may be “main lattice walls” and “electrode lattice walls” respectively. However, nowhere in the original disclosure does Applicant convincingly indicate that the barrier ribs are shaped in a lattice structure. On the contrary, Applicant originally discloses the main barrier/lattice ribs and electrode barrier/lattice ribs are not intersecting as in a lattice structure, but are in parallel, i.e. a rib-like structure. See, for example, figures 1, 2, 3, 5, etc.
6. The Examiner notes that Applicant recited in claim 19 that the main wall and electrode wall are in a lattice structure, however, after objecting to the drawings in the previous Office Action for failing to show the lattice structures, Applicant amended the specification to indicate that the main and electrode barrier ribs can also be main and electrode lattice walls, instead of showing that the walls are a lattice structure. The Examiner respectfully suggests that this amendment is confusing, since a lattice structure and a rib structure are not equivalent structures, and Applicant has introduced new matter into the specification, i.e. the ribs are in a lattice structure.
7. Applicant is required to cancel the new matter in the reply to this Office Action.

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8. Although Applicant may act as his or her own lexicographer to specifically define a term contrary to its ordinary meaning, the written description must clearly redefine the term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “lattice” is used by Applicant to mean “a series of parallel support strips,” however the accepted meaning is “a framework or structure of crossed wood or metal strips².” The terminology is inconsistent with the accepted meaning, and Applicant has not clearly redefined the term. The Examiner recommends canceling this amendment, and entering a new amendment to the drawings and/or specification which clearly shows a lattice structure which Applicant may have intended.

Drawings

9. The objection to the drawings under 37 CFR 1.83(a) made in the previous Office Action stand.

10. The Examiner appreciates Applicant for locating the third and second dielectric layers having substantially the same height in figure 31, as recited in claim 3. However, the objection to the drawings was directed to Claim 4, where the height of a third dielectric layer is higher than the height of the second dielectric layer. Therefore, the relative heights of the second and third dielectric layers as recited in Claim 4 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

² Merriam-Webster's Collegiate Dictionary, 10th Edition.

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11. Furthermore, the main and electrode lattice walls (i.e. a framework of crossed strips) in claim 19 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. The Examiner notes that this is a statutory requirement, i.e. this point cannot be argued.

12. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

13. Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim recites that one of the second electrodes is formed on a distal end of each of the electrode barrier ribs, while claim 1 recites that a second electrode is formed on a distal end of each of the electrode barrier ribs. The Examiner asserts claim 6 does not further limit claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1-10 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komaki et al (USPN 6,236,160; "Komaki") in view of Kaake et al (USPN 6,307,318; "Kaake").

15. In regards to claims 1, 6, and 19, Komaki discloses in figures 3 and 7, a first (1) and second (2) substrate opposing one another; a plurality of first electrodes (3b) formed on a surface of the first substrate facing the second substrate, and a first dielectric layer (5) covering the first electrodes, a plurality of main barrier ribs/main lattice walls (12) integrally formed on a surface of the second substrate facing the first substrate which define a plurality of discharge cells (11). Komaki further discloses a plurality of electrode barrier ribs/electrode lattice walls (9) formed on the second substrate between the main barrier ribs into a plurality of partitioned discharge cells, the partitioned discharge cells for each of the discharged cells accommodating a phosphor layer (10) of the same color, and a discharge gas (Xe, column 6 line 46) provided in the discharge cells.

16. Komaki is silent to a second electrode and a second dielectric layer being formed on a distal end of each of the electrode barrier ribs/electrode lattice walls.

17. However, Kaake teaches in figure 14 and column 2, lines 47-50 and column 3 lines 60-61, that a second electrode (92) and a second dielectric layer (94) may be formed on a distal end of the barrier ribs, and this configuration provides an improved back glass substrate for a plasma

display panel. One would be motivated to make such a modification to Komaki's panel for a variety of reasons, including material availability, improved electrode insulation and image quality, and specific market targeting.

18. Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the plasma display panel of Komaki including the electrode and dielectric layer structure of Kaake.

19. In regards to claims 2-3, and 20, Komaki and Kaake teach all of the recited limitations of claims 1 and 19 (above).

20. Komaki is silent to the exact height of the dielectric layers.

21. However, Kaake teaches in figure 14 that the second dielectric layer is formed on the second electrode, which is, formed the distal end of each of the barrier ribs. Kaake further teaches in figures 13-14 and column 1, lines 48-51 that a dielectric layer may be formed on every barrier rib using a method that will establish a height of an upper surface of the second dielectric layer and a third dielectric layer to be substantially the same and this configuration improves large screen plasma displays by allowing for an easier manufacturing method. One would be motivated to make such a modification to Komaki's panel for a variety of reasons, including material availability, reduced manufacturing costs, and specific market targeting.

22. Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the plasma display panel of Komaki including the dielectric layer structure of Kaake.

23. In regards to claims 4 and 21, Komaki and Kaake teach all of the recited limitations of claims 1 and 19 (above).

24. Both Komaki and Kaake are silent to the height of an upper surface of the third dielectric layer being greater than a height of an upper surface of the second dielectric layer.

25. However, Kaake teaches in column 10, lines 32-35, that if necessary, the dielectric layer can be removed in any suitable manner from the ribs. One of routine skill in the art would arrive at the height of an upper surface of the third dielectric layer being higher than an upper surface of the second dielectric layer, since Kaake motivates one skilled in the art to experiment with the different dielectric heights, and discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. One would be motivated to make such a modification to Komaki's panel for a variety of reasons, including material availability, reduced manufacturing costs, and specific market targeting.

26. Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the plasma display panel of Komaki including the electrode and dielectric layer structure of Kaake (above), and further including the height of an upper surface of the third dielectric layer being greater than a height of an upper surface of the second dielectric layer.

27. In regards to claims 5, 7-10, Komaki and Kaake teach all of the recited limitations of claim 1 (above).

28. Komaki teaches in figures 2 and 7 that each discharge cell is divided into two partitioned discharge cells in which the same phosphor layer is formed, and the partitioned discharge cells

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include concave surfaces (the phosphor surfaces shown in figure 2), and a width of each of the partitioned discharge cells are formed to correspond to a color displayed by the particular portioned discharge cell.

29. Komaki is silent to the second electrode being formed on a distal end of each of the main barrier ribs and electrode barrier ribs.

30. However, Kaake teaches in figure 14, that one of the second electrodes (92) is formed on a distal end of each of the main barrier ribs (40) and the electrode barrier ribs (40). Kaake further teaches in figure 1-5 and column 1 lines 65-67, that the barrier ribs are formed integrally with the second substrate, and this configuration allows for an improved method for making a back glass substrate for a plasma display panel. One would be motivated to make such a modification to Komaki's panel for a variety of reasons, including material availability, reduced manufacturing costs, and specific market targeting.

31. Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the plasma display panel of Komaki including the electrode configuration of Kaake.

32. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komaki in view of Kaake, in further view of Hirao et al (USPN 6,424,095; "Hirao").

33. In regards to claim 11, Komaki and Kaake teach all of the recited limitations of claim 10 (above).

34. Both Komaki and Kaake are silent to the partitioned discharge cells displaying blue include a larger width than the portioned discharge cells displaying green, and the portioned

discharge cells displaying green have a larger width than the portioned discharge cells displaying red.

35. However, Hirao teaches that this configuration is known to produce proper brightness ratios³. One would be motivated to make such a modification for a variety of reasons, including material availability, improved image quality and specific market targeting.

36. Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the plasma display panel of Komaki with the electrode configuration of Kaake, including the blue discharge cells being wider than the green discharge cells, and the green discharge cells being wider than the red discharge cells.

Response to Arguments

37. Applicant's arguments filed July 14, 2003 have been fully considered but they are not persuasive.

38. First, Applicant argues on pages 6-8 that Kaake shows in figure 14 that each and every barrier rib has the same configuration, and therefore teaches away from the main barrier ribs having a different configuration from the electrode barrier ribs, which are formed in-between. However, the Examiner notes that it is not clear from claim 1 that the electrode and main barrier ribs have a different configuration, specifically because the word "comprising" is used as the transitional word. Furthermore, Applicant's figure 1 shows that the main barrier and electrode

³ Hirao, col. 2, ll. 9-31.

ribs do indeed have the same configuration, as recited in Claim 5. The Examiner notes that the rib configuration of Kaake shown in figure 14 is identical to the rib configuration of Applicant's.

39. Second, Applicant argues on pages 8-9 that the Examiner's motivation for combining Komaki with Kaake is broad and generalized and therefore improper. The Examiner combined Kaake with Komaki because Kaake teaches that the configuration provides an improved back glass substrate for a plasma display.

40. The Examiner respectfully directs Applicant to Kaake, col. 3, ll.60-61:

a. "Another object of the present invention is to provide an improved back glass substrate for a plasma display panel."

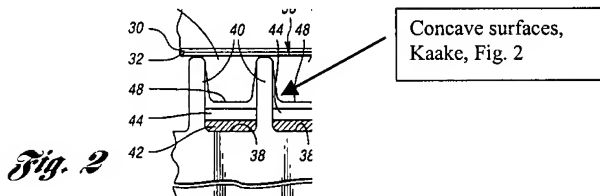
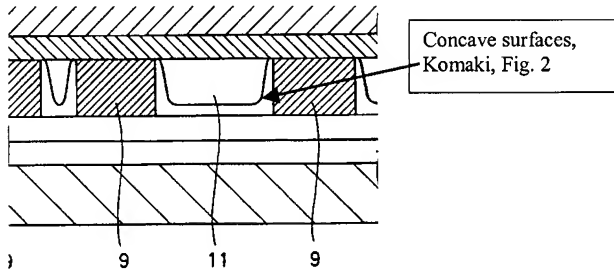
41. This motivation was used by the Examiner as one example of Kaake's teachings that would motivate one skilled in the art to construct Kaake's rib configuration. The Examiner asserts the showing is "clear and particular." Kaake is clear that it is the back glass substrate which is particularly improved. Furthermore, since Applicant has had the opportunity to thoroughly search the entire reference, several clear and particular teachings and motivations have no doubt been gathered of from Kaake's configuration. For example, in col. 1, ll. 48-51, Kaake teaches the conventional back glass substrate is difficult to use for large screen plasma displays, and Kaake's clearly motivates one of ordinary skill in the art to use the recited improved back substrate and manufacturing method.

42. Third, in response to Applicant's argument that Kaake does not teach forming a dielectric layer as recited in claim 3, the Examiner respectfully directs Applicant to the corresponding rejection (above), in which the Examiner clarifies the teaching's location in Kaake.

43. Fourth, in response to Applicant's argument that Kaake teaches away from claim 4, the Examiner respectfully directs Applicant to the corresponding rejection (above), in which the Examiner clarifies the teaching's location in Kaake.

44. Fifth, in response to Applicant's argument that Komaki and Kaake do not teach or suggest the limitations of claim 4, and that the teaching was not found in the prior art, the Examiner respectfully directs Applicant to the corresponding rejection (above), in which the Examiner clarifies the teaching's location in Kaake.

45. Sixth, in response to Applicant's argument concerning claim 10, that the Examiner makes no mention of the partitioned discharge cell being of a certain width to correspond to the color displayed, and that Kaake teaches away from concave surface, the Examiner respectfully directs Applicant to paragraph 27 of the previous Office Action. The Examiner states that Komaki shows "a width of each of the partitioned discharge cells are formed to correspond to a color displayed by the particular portioned discharge cell." Furthermore, both Kaake and Komaki show the discharge cells include concave surfaces (below).



46. Seven, in response to applicant's argument concerning claim 11, particularly that the different widths of the discharge cells are not known in the art, the Examiner is has applied U.S. Patent 6,424,095 to Hirao et al to motivate and teach changing the discharge cells widths' so that the blue cells are larger in width than the green cells, and the green cells are larger in width than the red cells.

Conclusion

47. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:00 - 4:30, M-F.

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48. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

49. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

pjm



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800